

Title (en)

POLARIZER, POLARIZATION LIGHT SOURCE AND IMAGE DISPLAY UNIT USING THEM

Title (de)

POLARISIERER, POLARISATIONSLICHTQUELLE UND BILDANZEIGEEINHEIT DAMIT

Title (fr)

POLARISEUR, SOURCE DE LUMIERE POLARISANTE ET UNITE D'AFFICHAGE D'IMAGES UTILISANT CEUX-CI

Publication

EP 1498751 A1 20050119 (EN)

Application

EP 03717612 A 20030417

Priority

- JP 0304872 W 20030417
- JP 2002121129 A 20020423
- JP 2002128904 A 20020430

Abstract (en)

A polarization component, capable of efficiently reflecting an obliquely transmitted light beam toward a light source without degrading the transmission-polarization property of a perpendicular incident light beam, is provided. A C-plate having an oblique retardation of at least $\lambda/8$ with respect to a light beam inclined by at least 30 DEG is disposed between at least two reflective circular polarizer layers whose selective reflection wavelength bands of polarized light overlapping each other. A combination of a reflective linear polarizer and a quarter wavelength plate may be used instead of the reflective circular polarizer. <??>Alternatively, a combination of two reflective linear polarizer layers and two quarter wavelength plate layers ($N_z \geq 2$) disposed therebetween can provide a similar effect. Further, a combination of two reflective linear polarizer layers and a half wavelength plate ($N_z \geq 1.5$) disposed therebetween may be used. When reflective linear polarizer layers are used, they must be bonded together with their axial directions set at a certain angle. The polarization component is preferably used in various image display apparatuses such as liquid crystal display apparatuses and organic EL display apparatuses. <IMAGE>

IPC 1-7

G02B 5/30; **G02F 1/1335**

IPC 8 full level

G02B 5/30 (2006.01); **G02F 1/1335** (2006.01); **G02F 1/13363** (2006.01); **G02F 1/13357** (2006.01)

CPC (source: EP KR US)

G02B 5/30 (2013.01 - KR); **G02B 5/3016** (2013.01 - EP US); **G02B 5/3025** (2013.01 - EP US); **G02B 5/3083** (2013.01 - EP US); **G02F 1/1335** (2013.01 - KR); **G02F 1/133536** (2013.01 - EP US); **G02F 1/133634** (2013.01 - EP US); **H10K 59/8791** (2023.02 - EP KR); **G02F 1/133543** (2021.01 - EP US); **G02F 1/13362** (2013.01 - EP US); **H10K 50/86** (2023.02 - US)

Cited by

EP3850407A4; EP1930749A4; EP2856858A4; WO2020077319A2; US11703622B2; US9955633B2; EP2541638B1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

EP 1498751 A1 20050119; **EP 1498751 A4 20070801**; CN 1296732 C 20070124; CN 1650197 A 20050803; KR 100955445 B1 20100504; KR 20040097373 A 20041117; TW 200306437 A 20031116; TW I258603 B 20060721; US 2005151896 A1 20050714; US 2009034070 A1 20090205; US 2010226007 A1 20100909; US 7443585 B2 20081028; US 7746555 B2 20100629; US 7982952 B2 20110719; WO 03091766 A1 20031106

DOCDB simple family (application)

EP 03717612 A 20030417; CN 03809350 A 20030417; JP 0304872 W 20030417; KR 20047016797 A 20030417; TW 92108868 A 20030417; US 23697608 A 20080924; US 50970004 A 20040930; US 78139810 A 20100517